Electronic distribution of coronavirus disease 2019 (COVID-19) guidelines: A potential tool for antimicrobial stewardship programs

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To the Editor—Mobile phone applications have been shown to improve adherence to local antimicrobial stewardship guidelines and modify patterns of antimicrobial consumption.[1] A wide variety of mobile phone applications have been developed during the coronavirus disease 2019 (COVID-19) pandemic for both dissemination of information and contact tracing.[2] Little is known about use of smartphone applications for the distribution of local guidelines and the impact of these applications on antimicrobial prescribing. A PubMed search for "COVID-19" AND "smartphone" AND "stewardship" did not return any relevant results. A key role many antimicrobial stewardship programs have taken on during the pandemic is guideline creation and maintenance of treatment guidelines.[3] We examined the use of a mobile phone application for distribution of local COVID-19 treatment guidelines.

Methods

Since 2017, our medical center (including an 865-bed academic, tertiary-care, urban hospital) has utilized a third-party platform to host antimicrobial treatment guidelines. This platform allows creation of new content and real-time guideline updates with the content appearing on our intranet site as well as a mobile application available on both Android and Apple devices. Content within the guidelines includes but is not limited to disease-specific treatment guidelines, antimicrobial dosing recommendations, and local antibiograms. The mobile application is accessible to hospital staff and trainees free of charge. We reviewed data from mobile application use from April 2017 through June of 2021.

Results

Over the study period the application was downloaded by 3,819 unique users. Individual pages were accessed 262,477 times. The most popular subsection has been the treatment guidelines with 131,118 views. June and July in aggregate across the study period were the months with the highest download rates. In early 2020, views of our specialty guidelines section (where our COVID-19 guidelines are located) dramatically increased. This increase in use followed the trend of our inpatient COVID-19 census (Fig. 1).

Discussion

Our mobile application has been used consistently by providers since 2017, and on average, we currently observe 5,000–6,000 unique page views per month. The subsection of our guidelines containing COVID-19 content has been increasingly accessed during periods of high COVID-19 hospital admissions. Although we cannot draw a direct correlation between use of the guidelines and inpatient census of patients with COVID-19 or with antibiotic use, these data provide useful indirect evidence of guideline use. The ability to rapidly communicate new information to providers has been critical during the COVID-19 pandemic. Between March 2020 and April 2021, our guidelines were updated more than 90 times in response to new literature and national guidelines. Our electronic distribution system facilitated our ability to rapidly update hospital providers. Because updated content is used on mobile devices and our intranet site simultaneously, this system helps assure our providers always have access to the most current content.

In the current analysis, we did not assess the relationship between guideline distribution and antibiotic use. In previously published data, we noted that our medical and cardiac intensive care units experienced an initial increase in community-acquired bacterial pneumonia–focused antibiotic use in April 2020, followed by a decrease to baseline use by May 2020. We did not observe an initial increase in hospital-acquired pneumonia focused antibiotic use.[4] Our antibiotic treatment guidelines likely had some impact on these observed antibiotic use trends.

A limitation of our analysis is that the subsection of our guidelines including COVID-19 guidance also includes guidelines for patients with human immunodeficiency virus (HIV) and cystic fibrosis. However, the impact of the latter 2 conditions on page use frequency is likely low based on historical data. In summary, electronic distribution tools are of high potential value for antimicrobial stewardship programs, particularly in the setting of rapidly changing COVID-19 treatment guidelines. Additional data are needed to determine the optimal use of mobile applications for the dissemination of COVID-19 guidelines.

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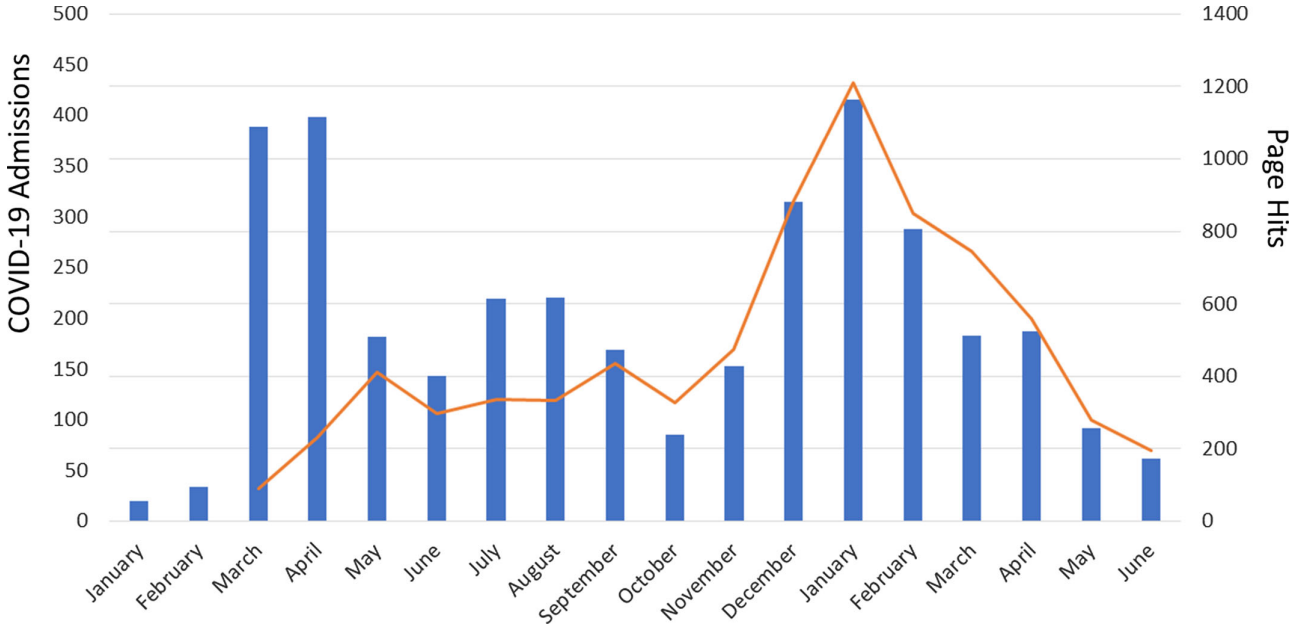

Fig. 1. COVID-19 guidelines page views (bars) compared to inpatient COVID-19 admissions (line graph), January 2020 through June 2021.

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Severe acute respiratory coronavirus virus 2 (SARS-CoV-2) seroprevalence among laboratory staff: Safe handling of coronavirus disease 2019 (COVID-19) samples

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To the Editor—Since the beginning of the coronavirus disease 2019 (COVID-19) epidemic in France in March 2020, laboratories have had to reorganize to implement COVID-19 diagnosis at a large scale. In this context, the handling of samples from suspected COVID-19 patients can expose laboratory staff to severe acute respiratory coronavirus virus 2 (SARS-CoV-2). The protection of healthcare workers (HCWs) is a critical point for pandemic control, at an individual level for care continuity and at a collective scale to avoid transmission to their contact cases.[1] Guidelines for respiratory- or stool-sample handling have recommended wearing filtering facepiece respirator 2 (FFP-2) mask, double pairs

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